

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0044] with the following amended paragraph:

Figure 2 is a block diagram illustrating components of the modeling system in one embodiment. The modeling system comprises a create design component 201, a simulate component 202, and an optimize component 203. The create design component is used to generate a development design. The create design component receives user input on the placement of icons representing the development design. The user selects from the icons of the icon store 204. The create design component stores the design in the design store 204205 and the user-specified attribute in the attributes store 206. The create design component handles the interaction with the user to place icons, connect icons, and set the values for the various attributes. The create design component may also import areas of the development and their attributes from a GIS. The simulate component simulates the flow of water based on the development design as indicated by the design store and the attribute store. The simulator component instantiates an object from object store 207 for each icon represented in the design store. In one embodiment, an object is defined for each type of icon. For example, each type of area has an object that is invoked by the simulate component to calculate the outflow of an area including evaporation, transpiration, and infiltration during each iteration of the simulation. The simulate component may invoke other objects to initialize or input values before the simulation. The simulate component invokes the objects representing an area during each iteration of the simulation in an order based on the dependencies. The results of the simulation are stored in output store 208. The output may include a history of the flow information of each object for each iteration. The optimize component identifies a set of parameters for the development design that best fits an objective function. The objective function and constraints for the optimization are stored in the constraint and objective function store 209. The optimize component sets initial parameters for the simulation within the constraints and then performs the simulation. The optimize component then evaluates the objective function and selects a new set of

parameters within the constraints. The optimize component repeats the performing of the simulation and establishing of new parameters repeatedly until the evaluation of the objective function converges to an optimal solution (e.g., maximize profits).